



AC Carb GAC & Extruded

GAS & AIR PURIFICATION ACTIVATED CARBON

CO₂ Purification

In breweries, the CO₂ recovered during the fermentation process serves various useful ends, either in the beer itself, or as a protective atmosphere during bottling, canning or transporting the beer. An excess of CO₂ can be sold as an end product to the soft drink industry, where it is used for carbonization of the soft drinks. Hydrogen sulphide is the most critical impurity in the CO₂ purification process. H₂S is removed by the activated carbon filter. However, the gas washer plays a vital role since it removes as much of the ethanol as possible. Too much ethanol adsorption by the activated carbon filters causes displacement of the H₂S in the activated carbon filter. When the ethanol concentration is controlled, the activated carbon filter will adsorb the H₂S almost completely.



These activated carbon filters are regenerated to extend the life time of the activated carbon. Regeneration is performed with either hot CO₂ or steam. Depending on the system supplier and the process conditions the amount of hot CO₂ or steam is determined. Fouling of the activated carbon by high boiling pollutants determines the actual life time, which is in the range of 2 to 5 years.

Polishing Filters in the Soft Drink industry

Primary treatment or polishing of CO₂ before the carbonization of the soft drink, is done by means of activated carbon. This is intended as a final step to remove traces of impurities that might still be present in the commercially available carbon dioxide qualities.

The activated carbon filters are non Regenerable and normally work with a defined maximum life time. Replacement of the activated carbon beds will take place after this period or when the maximal allowed pressure drop is reached.



AC Carb recommends an extruded activated carbon. Hardness is of vital importance to the service life of the carbon. Pressure drop increase, by means of mechanical decrease of the activated carbon, is kept to a minimum when selecting an extruded activated carbon.

Active Char extruded ranges are respectively 3 or 4 mm dia meter suited well for CO₂ polishing. These carbons have an extreme hardness and favorable adsorption characteristics for the removal of low concentrations of H₂ S, DMS, mercaptans and other organic components. The difference in diameter allows an optimal choice of the pressure drop over the carbon beds.

Various Vapour Removal

The adsorption capacity of activated carbon for the various vapours varies with:

- Concentration,
- Humidity and temperature,
- Actual velocity used through the filters,
- contact time,
- Particle size of the activated carbon,
- Diffusion coefficient of the constituent(s) to be adsorbed,
- Distribution of the pore sizes of the activated carbon.

Impregnation of activated carbon is used to increase the capacity for some gases, such as mercury, hydrogen sulphide, acid gases, ammonia, etc. Combination of impregnated and non-impregnated carbons can solve cases in which various components have to be removed.

Various Contaminants in Process Gas

Process Gas	Contaminants	Industry
Compressed Air	Oil, VOC	Various
Carbon dioxide	H ₂ S, Organics	Beverage, Soft drink
Sewage Gas	H ₂ S Organics	Sewage Treatment
Natural Gas	Mercury H ₂ S	LNG
Hydrogen Gas	Mercury VOC	Chemicals
Bio Gas	H ₂ S, Silicates	Power/Energy

Active Char Products Pvt. Ltd. Granular and Extruded Carbon Grades

AC Carb range has Granular and Extruded Carbons, Impregnated for specific application in catering to respective gas phase application criteria.

Please contact us for specific product selection.

Packaging

55lb./110lb. (25/50 kg) poly bag
1,100 lb.(500/550 kg) Bulk bag



For more information on the product, please contact our application specialists at the below mentioned address

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